

## **ABSTRACT**

The invention is directed to compositions comprising decellularized bone marrow extracellular matrix and uses thereof. Methods for repairing or regenerating defective, diseased, damaged or ischemic tissues or organs in a subject, preferably a human, using the decellularized bone marrow extracellular matrix of the invention are also provided. The invention is further directed to a medical device, preferably a stent or an artificial heart, and biocompatible materials, preferably a tissue regeneration scaffold, comprising decellularized bone marrow extracellular matrix for implantation into a subject.